

WHAT IS CLAIMED IS:

1. A transmission device, comprising:
  - a transmission control unit configured to control  
5 a transmission of a packet that requires a copyright protection which contains an encrypted electronic data, a copyright protection control data, and an RTP (Real-time Transport Protocol) header including a value of a dynamic payload type that indicates information  
10 regarding a state of the encrypted electronic data;  
a negotiation unit configured to carry out a negotiation to determine the value of the dynamic payload type for each communication in advance, with a reception device; and  
15 an authentication and key exchange processing unit configured to carry out an authentication and key exchange processing for purpose of the copyright protection, with the reception device.
- 20 2. The transmission device of claim 1, further comprising:
  - a copyright protection information notification  
unit configured to transmit information for notifying  
that the packet requires the copyright protection to  
25 the reception device, after transmitting the packet to the reception device.

3. The transmission device of claim 1, further comprising:

an encryption information notification unit  
5 configured to notify information for notifying that the packet requires the copyright protection and an encryption frame size of the packet to the reception device, before transmitting the packet to the reception device.

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4. The transmission device of claim 1, further comprising:

an encryption frame size reception unit configured to receive an encryption frame size of the packet,  
15 transmitted from the reception device; and

an encryption unit configured to encrypt the packet according to the encryption frame size received by the encryption frame size reception unit.

20 5. The transmission device of claim 1, wherein the value of the dynamic payload type indicates more than one values or an arbitrary value within a prescribed range.

25 6. The transmission device of claim 1, wherein the copyright protection control data contains at least a

part of bits of a seed value used in generating an encryption key for encrypting electronic data.

7. The transmission device of claim 1, further  
5 comprising:

a multicast transmission identification unit configured to judge whether the packet is to be transmitted by multicast or not, before transmitting the packet; and

10 a multicast encryption unit configured to encrypt the packet according to a multicast encryption frame size and transmit the packet, when the packet is to be transmitted by the multicast.

15 8. A reception device, comprising:

a reception control unit configured to control a reception of a packet containing an encrypted electronic data, a copyright protection control data, and an RTP (Real-time Transport Protocol) header  
20 including a value of a dynamic payload type that indicates information regarding a state of the encrypted electronic data;

a negotiation unit configured to carry out a negotiation to determine the value of the dynamic  
25 payload type for each communication in advance, with a transmission device; and

an authentication and key exchange processing unit configured to carry out an authentication and key exchange processing for purpose of a copyright protection, with the transmission device.

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9. The reception device of claim 8, further comprising:

a copyright protection information reception unit configured to receive information for notifying that  
10 the packet requires a copyright protection from the transmission device, after receiving the packet that requires the copyright protection from the transmission device.

15 10. The reception device of claim 8, further comprising:

an encryption information reception unit configured to receive information for notifying that the packet requires a copyright protection and an  
20 encryption frame size of the packet from the transmission device, before receiving the packet that requires the copyright protection from the transmission device.

25 11. The reception device of claim 8, further comprising:

an encryption frame size transmission unit configured to transmit an encryption frame size of the packet that requires a copyright protection, to the transmission device.

5 an encryption unit configured to encrypt the packet according to the encryption frame size received by the encryption frame size reception unit.

12. The reception device of claim 8, wherein the value  
10 of the dynamic payload type indicates more than one values or an arbitrary value within a prescribed range.

13. The reception device of claim 8, wherein the  
15 copyright protection control data contains at least a part of bits of a seed value used in generating an encryption key for encrypting the electronic data.

14. The reception device of claim 13, further  
20 comprising a decryption unit configured to decrypt the encrypted electronic data contained in the packet received from the transmission device, by using the seed value.

15. The reception device of claim 14, further  
25 comprising:

an update judgement unit configured to judge

whether the seed value is updated by the transmission device or not, according to the at least a part of the seed value contained in the copyright protection control data transmitted from the transmission device;  
5 and

an authentication and key exchange request unit configured to transmit an authentication and key exchange request to the transmission device when it is judged that the seed value is updated by the  
10 transmission device.

16. The reception device of claim 8, further comprising:

a multicast reception identification unit  
15 configured to judge whether the packet received from the transmission device is a multicast packet or not;  
and

a multicast decryption unit configured to decrypt the packet according to a multicast encryption frame  
20 size and transmit the packet, when the packet is judged as the the multicast packet.

17. A computer program product for causing a computer to function as a transmission device, the computer  
25 program product comprising:

a first computer program code for causing the

computer to control a transmission of a packet that requires a copyright protection which contains an encrypted electronic data, a copyright protection control data, and an RTP (Real-time Transport Protocol) header including a value of a dynamic payload type that indicates information regarding a state of the encrypted electronic data;

5 a second computer program code for causing the computer to carry out a negotiation to determine the value of the dynamic payload type for each communication in advance, with a reception device; and

10 a third computer program code for causing the computer to carry out an authentication and key exchange processing for purpose of the copyright protection, with the reception device.

18. A computer program product for causing a computer to function as a reception device, the computer program product comprising:

20 a first computer program code for causing the computer to control a reception of a packet containing an encrypted electronic data, a copyright protection control data, and an RTP (Real-time Transport Protocol) header including a value of a dynamic payload type that indicates information regarding a state of the encrypted electronic data;

a second computer program code for causing the computer to carry out a negotiation to determine the value of the dynamic payload type for each communication in advance, with a transmission device;

5 and

a third computer program code for causing the computer to carry out an authentication and key exchange processing for purpose of a copyright protection, with the transmission device.

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